



UNLOCKING  
CONSCIOUSNESS



## **BRIAN MIND FORUM**

### **Appendix 009**

#### **Halting Problem.**

##### **The solution to the '*Entscheidungsproblem*' or 'halting problem'.**

Alan Turing showed that the 'halting problem' is a difficulty for man made 'machines'; both their physical hardware and their abstract software, because, where they encounter an undecidable proposition, the universal machine will continue processing for ever seeking a solution that does not exist.

However, the 'halting problem' is not an obstacle to biological systems like the brain. Because the brain has evolved to cope with uncertainty, it is capable of ignoring past experience and any rules that have been learned, and take the probabilistic path that this is a lost cause, and halt processing.

This is the difference between artificial intelligence and biological intelligence. The former is rule bound and therefore, ultimately predictable, and so for this reason can always be outsmarted by better brains than the brains that designed the programs.

This argument also provides some useful evidence to help understand metaphysical questions about 'thinking' and the whole subject of human creativity.

There is some evidence to suggest that Alan Turing had begun to think about mathematical biological software, when he was effectively handed a cup of hemlock like Socrates two thousand three hundred before. Thus two of the greatest brains in history were destroyed by a bigoted establishment in an atmosphere of religious intolerance.

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